

tional materials. Although this new herbicide chemistry provides a wider array of materials to choose from, economics must still be considered before using them.

Postemergence Grass Weed Control. The predominant winter annual grass weeds are annual bluegrass and clumps of ryegrass that have escaped from the intended overseeding site. These effectively can be controlled with postemergence herbicides, assuming the turf is not overseeded with ryegrass or other cool-season grasses. In non-overseeded turf, atrazine (AAtrex), simazine (Princep T&O), or pronamide (Kerb) will provide excellent control of young annual bluegrass and ryegrass. The key to the success of these materials is the application timing. The first application should be applied before cold temperatures occur in mid to late fall when weeds are small and easiest to control. A second application in late January or early February will be necessary to control the subsequent flush of germination that occurs at that time. Atrazine and simazine have the added benefit of also controlling many winter annual broadleaf weeds such as lawn bur-

weed, chickweed, and henbit. If control is attempted later in March or April, the effectiveness of the herbicide is reduced. The time required for weed control also is longer and bermudagrass spring green-up may be delayed with later applications. Atrazine and simazine should not be applied in spring during bermudagrass green-up.

If turf managers wish to eliminate the overseeded ryegrass once seasonal play has ended, mid-winter herbicide applications should be planned. Ryegrass control without injury to bermudagrass is achieved with Kerb, simazine, and atrazine. The herbicide should be applied in mid-winter when the bermudagrass is dormant and has not begun to green-up. Response from these materials will be slow when temperatures are cool.

Postemergence annual bluegrass control is limited in overseeded situations. Ethofumesate (Prograss) is the material available for this purpose. However, to prevent turfgrass injury, the application rate, time, and frequency are important. Prograss should be used 30 to 45 days after overseeding when the bermudagrass is completely dormant. If applied sooner, delayed bermudagrass green-

up may result the following spring. A subsequent application 30 days after the initial application can be used but should not be made after January. Applications after January also can result in delayed spring green-up. Prograss is not recommended in areas such as Florida because the bermudagrass normally does not go completely dormant. □

Editor's Note: Bert McCarty is an associate professor of turfgrass science at the University of Florida, Gainesville. Copies of Weeds of Southern Turfgrasses may be ordered for \$8 each through:

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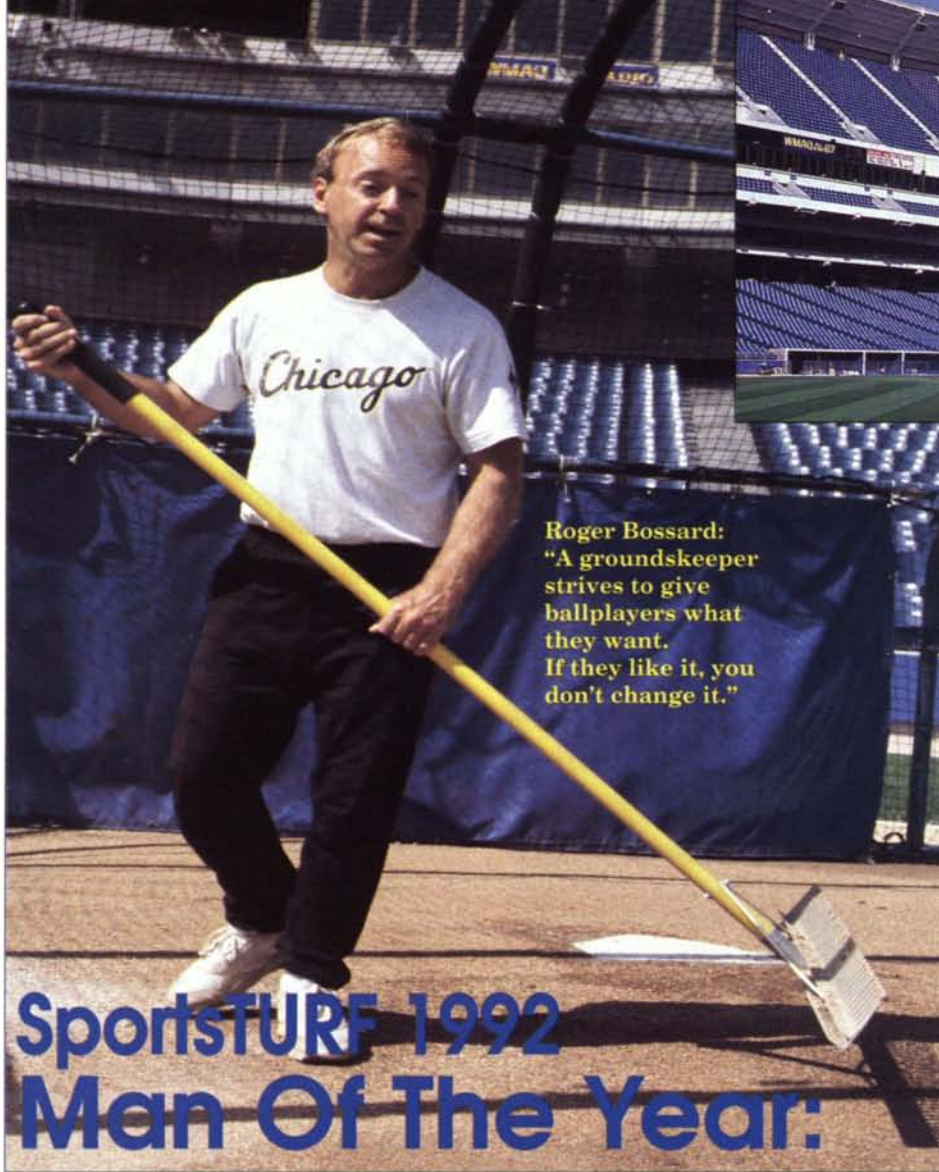
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Roger Bossard:
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If they like it, you
don't change it."

**SportsTURF 1992
Man Of The Year:**

ROGER BOSSARD— FAMILY STYLE

Life begins on Opening Day for baseball fans, but no one looked forward to the beginning of the 1991 season more than Roger Bossard, the Chicago White Sox groundskeeper. It marked the first game at new Comiskey Park, a giant coming out party for a field built just a stone's throw from the legendary old Comiskey Park.

The new park project was a groundskeeper's dream. Bossard was given free reign to design the field, a once-in-a-lifetime chance to eliminate many nagging maintenance headaches and

construct a lasting sports field monument. Like an expectant father, he was at once anxious, excited, and proud. Four days before the season opener, the ballpark was "baptized."

"About 1-1/2 inches of rain fell on the field," Bossard remembers. "It was its first test with a good amount of rain. Everything worked perfectly."

Opening Day went off without a hitch, showing off the new stadium as a cathedral to America's favorite pastime. While most fans probably focused on the stadium's massive entrance, the video scoreboard or the pinwheels that lit up whenever the home team took one down, the playing field itself was rich in



Hunter I-40 sprinklers at work in the New Comiskey Park. Photo courtesy Hunter Industries.

tradition, yet constructed using the latest in sports field technology.

Roger Bossard's efforts designing and building the new Comiskey Park, as well as his continued commitment to maintaining high-quality standards in sports turf have earned him the *sportsTURF* 1992 Man of the Year Award.

Building A Dream

The old Comiskey Park was a classic ballfield, brimming with style and tradition. What it didn't have, however, was adequate drainage and irrigation. Bossard, who had been a groundskeeper there since the 1960s, knew this all too well.

One of the key improvements Bossard made in the new field centered around its drainage system. There are more than 9,000 feet of drain tile beneath the field. In a herringbone style, the drains extend from a six-inch main that travels from around second base straight down center field. The system includes five exhaust planar flow outlets with check valves.

There are no pumps in the drainage system. The force of gravity causes water to move through the drains. Last summer, Chicago received 3-1/4 inches of rain in a 10-hour period.

Predictably, the rain came, but his fears were unfounded. The field was in satisfactory shape for the game despite the rain that left areas of the city flooded.

"I wanted to be able to accept four to 4-1/2 inches of rain and be able to play in 1-1/2 hours," Bossard reveals.

Bossard adds that the drainage tile isn't the only factor in keeping the water away. The soil also makes a big difference. Years earlier, he had conducted his own soil experiments. His crew used to kid him about his "coffins" filled with various sand-peat mixtures. For three years,

Bossard worked to find the mix that did best in Chicago conditions.

The final mixture, which composes the top 12 inches of soil at the new Comiskey, is 100 to 95 percent sand. The top four inches have five percent peat. Bossard took sand samples from around the Midwest before deciding on a sand from Lake Michigan. It took 6,700 tons of sand to fill the outfield areas.

The turfgrass is a mixture of Delphi, Glade, Parade, and Rugby bluegrasses and Ph.D., a four-cultivar ryegrass mixture. The bluegrasses provide durability while the ryegrasses offer some extra color, Bossard says.

In designing the irrigation system for the new park, Bossard enlisted the help of Jim Flannigan of Century Rain Aid. They needed a system that would work well on a sand-based field.

"Stadium irrigation equipment has to conform to rigid safety requirements, such as positive pop-downs and complete retractability to ground level," Flannigan says. "The Hunter I-40 sprinklers met their requirements. More than 50 were installed on the infield, outfield, in the bullpens, and along the baselines from home to first and third bases."

Muellermist Irrigation, Broadview, IL,

was the irrigation contractor on the project. Andy Wright, president of Muellermist, says the irrigation system needed to be both water efficient and user friendly.

"His [Bossard's] ground crew can fine-tune the water distribution pattern in each zone with a small adjustment right at the top of the head while the water is running," says Wright. "It's a real time saver."

Not everything at the new Comiskey is "new." In a move that had more to do with preserving what "worked" than nostalgia, the infield mix from the old park was saved and reinstalled at the new facility. Primarily calcined clay, the infield mix was conditioned with Soilmaster from Pro's Choice. The soil conditioner has a finer granular mix than standard calcined clay, Bossard says, and it holds more moisture than other products he has worked with through the years.

Moving the old infield to the new park was a logistical challenge and one of the final pieces in the construction puzzle. Forms held the outfield and sideline turf and soil in place while the remaining White Sox home games were played. After the last game, Bossard supervised moving the infield mix.

"He did a very good job of managing, considering he was installing one field while maintaining another at the same time," recalls Roger O'Conner, groundskeeper for the Chicago Cubs.

Path To New Comiskey

It's been said that Tommy Lasorda bleeds Dodger Blue. Bossard's blood then, must be the deep brown color of a properly moistened infield. The son of Chicago White Sox groundskeeper Gene Bossard and grandson of legendary Cleveland Indians groundskeeper Emil Bossard, groundskeeping is in Roger's veins. His earliest memories involve grass and dirt.

"I knew at 10 what I was going to do when I grew up," Bossard recalls. "That's just how I grew up. I was weaned and raised at the park."

Old Comiskey park may have been every boy's dream, but for Roger Bossard, it was a real life playground. His father, Gene, was Chicago's hero, returning from a brief stint in the Navy during World War II to rescue infielders from errant ground balls. Roger was only too happy to tag along with his father to the ballpark.

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MAN OF THE YEAR

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At first, the massive field intimidated the youngster, but he quickly learned its ins and outs. There were pastures of green grass on which to play, endless stairs to climb, long ramps to race down and, of course, baseball. Bossard still has the first White Sox Jersey he wore to a father-son baseball game.

As a teenager in 1967, he signed onto the grounds staff. No special treatment came to the tow-headed, happy-go-lucky fresh recruit. He dragged hoses with the rest of the crew, learning the proper rhythm of walking and spraying an infield. Not that absorbing knowledge was a priority for Bossard at that time. He simply enjoyed his days in the sun as one of the boys of summer.

All seasons must turn, and the same was true for carefree summers at Comiskey Park. World War I was his grandfather's war, World War II his father's. Vietnam was Bossard's turn. He joined the Navy and was sent to DeNang.

Bossard returned from the service in 1969, ready to meet his destiny. The warm sun shining over Comiskey brought happy memories of the past as well as

promises for the future. With wiser eyes, he watched his father work, and he absorbed the many of the techniques and practices. In his spare time, he took courses at Purdue University.

It didn't take long for Roger to pick up the nuances of professional groundskeeping for a major league baseball team. He learned the *tricks of the trade*. Although he swears it doesn't happen today, Bossard says his father and then manager Eddie Stanky would see to it that the game balls were stored in a room with a humidifier. By game time, the balls would appear dry on the surface, but the insides would have enough extra moisture to dampen their flight. This was viewed as an advantage to the then weak-hitting White Sox.

Other techniques that were popular in the past included cutting the infield grass and sloping the foul line dirt to encourage balls to roll either foul or fair, and dampening basepaths to slow opposing fleet-footed base stealers.

Those "tricks" are history, Bossard maintains, but what hasn't changed is groundskeepers' willingness to keep home team players happy. "My father maintained every position as each player wanted it," he says.

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Bossard can roll off infield preferences the way a chef can list the favorite dishes of his regular customers. Robin Ventura likes the base a little on the soft side. Ozzie Smith wants the front of the shortstop soft, but the back on the hard side.

Legendary baseball team owner Bill Veeck used to say that a good groundskeeper could save the home team 10 to 12 games a year. Bossard isn't sure he agrees, but he's willing to take credit for three to five.

"The most important part of the baseball field is the infield," he says

Ritual Excellence

Keeping the infield in top shape is one of Bossard's priorities. During the season, it's not unusual for him to put in 15-hour days.

"He's great for the profession because is so hard-working," says Ken Mrock, chief groundskeeper for the Chicago Bears. "His hard work helps earn other groundskeepers respect."

Field irrigation begins early on game days. Bossard wants watering to be completed by 9 a.m. Home games are televised on WGN, so he makes sure the field will look good on camera. Crews use

triplex greensmowers to stripe the turf and give a high-quality cut.

Infield work requires a steady routine and lots of hand labor. The goal is to allow moisture to penetrate the infield, giving a firm, even surface for play. After spraying the infield, Bossard gives it a bit of time to dry. When the surface looks dry, dragging begins with a steel drag to even the infield surface. More spraying follows.

"A groundskeeper strives to give ballplayers what they want," Bossard says. "If they like it, you don't change it."

By game time, Bossard has the field looking perfect. Every stripe is in place and the infield is as smooth as a pool table. The White Sox players have confidence in the infield bounces, which enables them to bare hand grounders when necessary.

Bossard's work has also earned respect from his fellow groundskeepers. Professional sports are a way of life in Chicago, so it's almost a civic duty to keep fields in top shape. Chicago groundskeepers know how tough it can be to provide a high-quality playing surface given the city's unpredictable weather.

"It's a real asset to Chicago to see how well-maintained the field is," says Mrock.

"The stadium is great to look at, but the real sight is when you see that emerald field."

Bossard and Cubs' groundskeeper O'Connor have a friendly rivalry. Not long after the new Comiskey opened, O'Connor dropped by for a visit.

"I told Roger he needs some vines on the wall to make his job more interesting," O'Connor jokes.

Bossard has proven his groundskeeping skills time and time again. He's built his own field. Still, there is a prize—one his father was able to win—that eludes him.

"I'd love to have a world championship ring," he says "It's not the money, it's the win."

His mind wanders back to the fall of 1959 when he was a boy in a world championship clubhouse, dodging sprays of champagne. His was father was in the midst of the celebration, knowing his field helped the boys in black to the top of the world.

Spring training is but a month away, and hope springs eternal on opening day. Like many White Sox fans, Bossard hopes his field will host the 1933 world champs, adding memories to the field he built. □

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CHEMICAL LOG

Battling *Poa Annua* With IPM

Turf managers fighting the prolific seed producer, *Poa annua*, which plagues playing fields each winter and spring, can conquer this grassy weed with an integrated pest management (IPM) approach. IPM is a philosophy of weed, insect, and disease management proven in years of practice, especially on golf courses.

To meet the goal of managing pests while balancing costs, benefits, public health, and environmental quality, turf managers must:

1. Gather technical information on the pest, in this case *Poa annua*.
2. Consider all control options.

The Technicalities

Poa annua, or annual bluegrass, flourishes in closely mowed areas. In the South, *Poa annua* is a cool-season invader of dormant warm-season grass stands and overseedings of cool-season species such as ryegrass, bentgrass, and *Poa trivialis*.

Poa annua flourishes and becomes highly competitive because it's a cool-season species that germinates and begins active growth in the fall, when warm-season stands of bermudagrass are beginning to enter winter dormancy. This is also a critical time for the establishment of cool-season grass overseedings, which tend to be less competitive during the germination phase. This critical life-cycle link must be understood to develop an appropriate IPM plan for *Poa* management.

Moist soil conditions, as well as cool temperatures, promote germination and growth of *Poa*. This gives the grassy weed a strong advantage over desirable warm-season turfgrass from fall through spring. Seeds continue to germinate as long as temperatures are cool.

Poa begins to emerge in early fall. The specific date depends on location and weather conditions. It generally germinates

when night temperatures are in the 60s and daytime temperatures are below 85 degrees F.

Seedheads are initiated in late fall and winter, but seedhead development is greatest in spring and early summer. Until seedheads appear, *Poa* isn't a highly visible nuisance. After seedhead development, however, the turf takes on a yellowish-white, uneven appearance.

*When it comes to fighting *Poa annua*, an IPM program that incorporates cultural and mechanical practices—along with the right chemistry—is the best approach.*

By late spring, on closely mowed and irrigated turf, *Poa* can dominate desirable turf stands. However, through a combination of cultural, mechanical, and chemical control methods, turf managers can reduce and even control *Poa* populations.

Cultural Control

Cultural practices designed to discourage *Poa* growth and favor the growth of perennial turfgrass species include the following:

- Water deeply and infrequently. Use irrigation to meet the physiological needs of the perennial species in the turfgrass population.

- In a dormant stand of bermudagrass, fertilize the established over-

seeding to maintain a highly competitive and dense turf.

- Practice good soil management to improve internal drainage and soil aeration.

- Avoid disturbance of the turfgrass during primary *Poa* germination periods.

Mechanical Control

The use of lightweight equipment results in a significant reduction in compacted soil. Reducing compaction speeds up drying of soils and reduces the competitive advantage of *Poa* over desirable turfgrasses.

Populations of *Poa* are also greatly reduced by increased mowing heights. Problems with this weed aren't as persistent on golf course roughs, lawns, parks, and other areas maintained at greater mowing heights and with less irrigation.

Chemical Control

Helpful, cultural, and mechanical practices alone usually won't control *Poa*. It's important to remember that the soil in most irrigated turf situations has immense quantities of *Poa* seed just waiting for an opportunity to germinate. For best control, use preemergent herbicides that have proven effective in preventing new crops of seed from germinating.

A single fall application of Team™, Surflan™, or XL™ herbicide prior to seed germination offers effective, season-long *Poa* control. In the South, Rubigan™ fungicide used at high rates can also be used effectively to prevent or reduce *Poa* in overseeded bermudagrass greens, tees, and other perennial turfgrass areas.

The bottom line is: When it comes to fighting *Poa annua*, an IPM program that incorporates cultural and mechanical practices—along with the right chemistry—is the best approach.

Technical credit: DowElanco, all products trademark DowElanco.

EQUIPMENT UPDATE

Options for Mulching

By Bob Tracinski

If you haven't yet adopted Grasscycling, you must have some questions and concerns about how mulching grass clippings will fit into a commercial mowing program.

Consider the options available to enhance the performance of your existing equipment when mulching, such as mulching kits, blade selection and deck attachments. If you will be purchasing new equipment, analyze your specific needs under all the mowing situations your crews will encounter. A dedicated mulching deck only mulches grass clippings. It can't be altered to bag or side-discharge. Convertible mowers offer the ability to mulch, side-discharge or bag. With any mower, the operator controls the travel speed and direction and the engine throttle setting.

The cutting environment presents an assortment of variables that you must assess at each mowing. The mower operator must analyze the type and height of the grass or mixture of grasses, desired cutting height, turf lushness or thickness, turf moisture content, and the general terrain characteristics, including hills, bumps, and landscaping.

The mowing equipment, machine operator and the cutting environment together present some interesting challenges in maintaining a high-quality cut while mulching.

As the mower blade rotates it not only cuts, but it also creates a vacuum within the mower deck that pulls grass up for an even, clean cut. As the mower moves forward, the blade tips take a series of bites of grass. The grass is cut only by the sharpened portion of the blades, not by the entire blade.

Engine Considerations

Commercial mowing already makes mower engines work hard. Engines must be powerful enough for the loads they will tackle. Adding mulching to the picture will require more horsepower from the engine to handle the additional cutting load.

Mower engine horsepower requirements increase as the bite size increases. A larger volume of material must be cut and moved a greater distance within the mower deck. Engine speed controls blade speed. Engines are designed to run at full tilt, after the warm-up.

For mulching, you need to consider the aerodynamics of the blade(s) and the cutting chamber. The deck shape and blade design combine to lift clippings up within the reach of the circulating blades inside the deck. The blades cut and recut the grass until the material is small enough to blow into the turf canopy where it's hidden while it decomposes.

Lift can vary with the type of blade you choose. Some blades have little

lift and some provide large amounts, creating a tremendous vacuum or pulling action. Certain mower decks give you the option of changing the blade so you can fine tune the cutting and vacuum.

Greater lift also creates greater resistance to the blade. That means blade rotation requires more horsepower. Blade shape can change air flow characteristics. Having a longer sharpened portion of the blade is an important factor. Because the blade cuts and recuts grass several times, mulching also requires more horsepower.

Deck Design

For mulching, the inner mower deck configuration is altered. On small walk-behind mowers, the discharge chute is closed off by a mulch plug that conforms to the bottom of the deck. On larger mower decks, mulching attachments direct the cut material back into the rotating blade or blades and partially or fully close off the discharge chute. Some mulching attachments have an adjustable baffle to control the flow of outgoing clippings. This attachment ranges from complete chute enclosure to partial enclosure to no enclosure.

A clean deck, sharp blades and proper mower deck adjustment also are critical with mulching. Properly adjusted, the deck tilts slightly forward so only the sharpened tips of the blade come in contact with uncut grass. The mower bites

the grass at the front and grass height is determined by the height of the blade at its most forward position.

If the deck tilts to the rear, the front of the blade takes a major bite and the trailing edge also takes smaller bites as the blade rotates. Final cut height is determined at the rear of the blade rotation. The entire length of the blade is in contact with the grass. This causes drag and requires extra engine horsepower. It also leaves the lawn with a ragged appearance.

Debris and pulverized grass clippings can form a sticky substance that packs the underside of the mower deck. This can result in clumps of cut grass on the lawn or strips of uncut grass. It also restricts the air flow.

Cut quality also is affected by the mower's ground speed and, because the discharge opening is closed, the reduced air flow through the deck. Crews may experience initial problems with mulching because they fail to run the engine fast enough to create the necessary blade rotation or they cover the area too quickly. Operators must slow down. However, because there is no material collection, the total time spent mowing is shorter.

Today's extremely maneuverable mowers with high torque engines tend to promote faster ground speeds. You may need to caution your mower operators to slow down to Grasscycle effectively.

The turf canopy must be thick enough to hide grass clippings. The one-third rule (removing no more than one-third of the grass blade in any one mowing) is especially important in mulching.

Check your options. Grasscycling can save you time and money. Blades with greater lift and mulching kits together may turn your present equipment into mulching mowers. New equipment may give you options to handle mowing more effectively under all conditions. The pressure is on.

Bob Tracinski is Public Relations Manager for the John Deere Lawn and Grounds Care Division, Raleigh, NC, and board member and public relations committee chairman for PLCAA.

Kittyhawk Soars Over Deere Tournament Field

In the area surrounding Palm Springs, CA, elaborate patches of green spring from the desert through the miracle of irrigation. Golfers flock here to play beautifully designed golf courses like The Dunes Course of La Quinta Hotel Golf and Tennis Resort, and the Jack Nicklaus Resort Course of PGA West in La Quinta, just 20 miles south of Palm Springs.

One week prior to the John Deere Team Championship Golf Tournament, held at these courses on November 21 and 22, 1992, the Grand Slam took over the Jack Nicklaus Course. With the image of the PGA's top players standing on these same spots, facing the same challenging holes, it's no wonder that this year's John Deere competition was so spirited.

For the sixth year, teams made up of a course's Golf Course Superintendents Association of America (or Canadian Golf Superintendents Association) superintendent, PGA professional, club manager and club president (or two members of the board of directors) have competed for spots in the finals tournament through sectional competitions sponsored by their local John Deere Golf

and Turf Distributors. For the finals competition, a representative from the distributorship joins the team.

The 33 sectional tournaments drew a record 937 teams vying for the 33 slots in the finals.

The format was a modified scramble, with the pro playing his or her own ball, and the rest of the team playing the best shot of the remaining four competitors, until the ball was holed. The team's score for each hole was the best of the pro's or the team's total. Each team played both courses. A shotgun start was used, with each team teeing off at their assigned hole.

Scores were close at the end of the first day's play, with two teams tied for first at 51, three teams at 52, three at 53, and two at 54.

On the second day, Kittyhawk Golf Center topped their 53 score with a sizzling 47 for the win.

Kittyhawk is one of six city courses in Dayton, OH, under superintendent Hank Chafin. He oversees six superintendents and coordinates course operations. Chafin, club president Conrad Stewart, and club manager Terry Smith were in their second international competition, having also qualified for the finals in 1989.

Chafin spoke of the changing role of the superintendent, the increasing professionalism and greater commitment to excellence. He stressed the importance of certification.

Chafin said of the tournament, "To see what others are doing is a great educational tool. It enhances our team's ability to manage our own facility and leads to better assistance between members. The game itself was tremendous. We got off to a great start. Our first hole of the second round was the 17th hole of the Dunes Course, voted the toughest hole in America by the PGA. Things went well there and just kept going. It was a total team effort."

Club manager Terry Smith said, "We practiced a lot and really built a close relationship, which helped our team."

Golf pro Richard L. Hutchinson said, "I just drove the cart as caddy. I'd help read putts, then stay out of the way and let them do what they do best. The team sunk some key birdie putts. I'd pump them up if something bad happened. Getting such a good start made the round easier. We set a goal. We didn't quite make it, but played well enough for the win."

continued on page 32



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